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**From:** Lindstrom, Andrew [Lindstrom.Andrew@epa.gov]  
**Sent:** 1/12/2021 3:51:22 PM  
**To:** Li, Emily [li.emily@epa.gov]; Strynar, Mark [Strynar.Mark@epa.gov]; McCord, James [mccord.james@epa.gov]  
**CC:** Martin, Joseph [Martin.Joseph@epa.gov]  
**Subject:** RE: Water-soluble PFAS standards

Emily,

10,000 ng/uL sounds super high to me. 10 ug/uL? 10 mg/mL?

Joe, how much mass do you need to make your detector register something?

Andy

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**From:** Li, Emily <li.emily@epa.gov>  
**Sent:** Tuesday, January 12, 2021 9:44 AM  
**To:** Strynar, Mark <Strynar.Mark@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; McCord, James <mccord.james@epa.gov>  
**Cc:** Martin, Joseph <Martin.Joseph@epa.gov>  
**Subject:** RE: Water-soluble PFAS standards

Thanks very much Mark and Andy,

A standard mix would be great to avoid using precious samples, and a mixture works for us. Does that start as high as 10,000 ng/uL as well? We're thinking we could start with 10mL of a 10,000 ng/uL mixture.

Emily

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**From:** Strynar, Mark <Strynar.Mark@epa.gov>  
**Sent:** Tuesday, January 12, 2021 7:41 AM  
**To:** Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; Li, Emily <li.emily@epa.gov>; McCord, James <mccord.james@epa.gov>  
**Cc:** Martin, Joseph <Martin.Joseph@epa.gov>  
**Subject:** RE: Water-soluble PFAS standards

Okay so if this is the case this is easy. I would just need to know at what concentration and do you need them individually or if a mixture is okay?

Mark

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**From:** Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>  
**Sent:** Tuesday, January 12, 2021 6:33 AM  
**To:** Strynar, Mark <Strynar.Mark@epa.gov>; Li, Emily <li.emily@epa.gov>; McCord, James <mccord.james@epa.gov>

**Cc:** Martin, Joseph <Martin.Joseph@epa.gov>

**Subject:** RE: Water-soluble PFAS standards

Emily and Mark,

I don't think you'd need to use any of the rare Chemours-specific materials for this initial work. I suggest sticking with a standard mix of method 537.1 type compounds which should be easy to find and representative of many different types of contamination.

Andy

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**From:** Lindstrom, Andrew

**Sent:** Tuesday, January 12, 2021 5:09 AM

**To:** Strynar, Mark <strynar.mark@epa.gov>; Li, Emily <li.emily@epa.gov>; McCord, James <mccord.james@epa.gov>

**Cc:** Martin, Joseph <Martin.Joseph@epa.gov>

**Subject:** RE: Water-soluble PFAS standards

Thank you Mark!

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**From:** Strynar, Mark <Strynar.Mark@epa.gov>

**Sent:** Monday, January 11, 2021 4:13 PM

**To:** Li, Emily <li.emily@epa.gov>; McCord, James <mccord.james@epa.gov>

**Cc:** Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; Martin, Joseph <Martin.Joseph@epa.gov>

**Subject:** RE: Water-soluble PFAS standards

Hi Emily,

We do have some PFAS standards we received from Chemours that were dissolved in water from the original dilution. They are very precious as they are some of the only standards I have for some of these PFAS. I am glad to share them with you but I would need to get in the lab and do a dilution of the original stock I received. All of them were made up at the same concentration which I think was 10,000 ng/uL. My question to you would be what concentration do you need the PFAS at?

Second I would say I have perhaps 15 or so PFAS made up in 95% methanol 5% 2mM NaOH in DI at 10,000 ng/uL. I would be glad to dilute any and all in DI water and give to you. However, I can not go back in the lab until next Monday due to COVID quarantine.

Mark

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**From:** Li, Emily <[li.emily@epa.gov](mailto:li.emily@epa.gov)>

**Sent:** Monday, January 11, 2021 3:28 PM

**To:** McCord, James <[mccord.james@epa.gov](mailto:mccord.james@epa.gov)>; Strynar, Mark <[Strynar.Mark@epa.gov](mailto:Strynar.Mark@epa.gov)>

**Cc:** Lindstrom, Andrew <[Lindstrom.Andrew@epa.gov](mailto:Lindstrom.Andrew@epa.gov)>; Martin, Joseph <[Martin.Joseph@epa.gov](mailto:Martin.Joseph@epa.gov)>

**Subject:** Water-soluble PFAS standards

Hi Mark and James,

Andy Lindstrom pointed me in your direction for water-solvated PFAS standards. Andy and I are on a PIP team working on an FTIR-based field method for detecting PFAS in soil and water—we are trying to validate a soil extraction, and are looking for water-solvated standards we can compare against. Would you happen to have some standards we could take to analyze on our FTIR? We would only need about 1mL per standard, as our instrument only needs ~2 microliter droplets for analysis. Any standards you might be willing to supply would be very helpful.

Thanks and best,

Emily

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